THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Previously Presented) A three-dimensional data generating system comprising:

a measurement portion for generating three-dimensional data by measuring a three-dimensional shape of an object from plural directions so as to generate plural data;

a position and posture changing portion for changing a position or a posture of the object;

a position and posture sensing portion including a first element provided in the measurement portion and a second element provided in the position and posture changing portion, wherein the position and posture sensing portion measures a relative position and a relative posture between the first element and the second element; and

a data integrating portion for integrating plural sets of three-dimensional data generated by plural times of measurements in the measurement portion based on each of the relative positions and the relative postures measured by the position and posture sensing portion at each of the measurements, wherein

integrating the plural sets of three-dimensional data includes converting the coordinates of the plurality of three-dimensional data into a common three-dimensional coordinate system by using a conversion matrix.

2. (Original) The three-dimensional data generating system according to claim 1, wherein

the position and posture changing portion includes a movable member whose position and posture are kept constant with respect to the object during the plural times of measurements; and

the second element is provided in the movable member.

3. (Original) The three-dimensional data generating system according to claim 2, wherein

the position and posture changing portion further includes a support board for changing the position and the posture of the movable member; and

the movable member is a turn table rotationally driven by the support board.

4. (Previously Presented) The three-dimensional data generating system according to claim 1, wherein

the position and posture changing portion includes:

a movable member whose position and posture are kept constant with respect to the object during the plural times of measurements,

a base member for changing the position and the posture of the movable member, and

a detecting portion for detecting an amount of change of the position and the posture of the movable member with respect to the base member; and

the second element is provided in the base member.

5. (Previously Presented) The three-dimensional data generating system according to claim 4, wherein

the base member is ~~the~~ a support board and the movable member is ~~the~~ a turn table

rotationally driven by the support board; and

the detecting portion includes an encoder for encoding a rotational angle of the turn table

to the support board.

6. (Original) The three-dimensional data generating system according to claim 1, wherein

the first element measures the position and the posture of the second element with respect

to the first element.

7. (Original) The three-dimensional data generating system according to claim 1, wherein

the second element measures the position and the posture of the first element with respect

to the second element.

8. (Previously Presented) The three-dimensional data generating system according to claim 1, wherein

plural second elements are provided in the position and posture changing portion.

9. (Original) The three-dimensional data generating system according to claim 1, wherein

the position and posture sensing portion measures the relative position and the relative

posture between the first element and the second element by electromagnetic induction.

Claims 10 - 19 (Cancelled)

20. (Previously Presented) A method of generating three-dimensional data comprising:

generating three-dimensional data by measuring, using a measuring portion, a three-dimensional shape of an object from plural directions so as to generate plural data;

changing a position or a posture of the object using a position and posturing changing portion;

measuring a relative posture between a first element provided in the measuring portion and a second element provided in the position and posturing changing portion; and

integrating plural sets of three-dimensional data generated by plural times of measurements based on each of the measured relative positions and the relative postures measured at each of the measurements, wherein

integrating the plural sets of three-dimensional data includes converting the coordinates of the plurality of three-dimensional data into a common three-dimensional coordinate system by using a conversion matrix.

21. (Previously Presented) The method of generating three-dimensional data according to claim 20, wherein

the position and posture changing portion includes a movable member whose position and posture are kept constant with respect to the object during the plural times of measurements; and

the second element is provided in the movable member.

22. (Previously Presented) The method of generating three-dimensional data according to claim 21, wherein

the position and posture changing portion further includes a support board for changing the position and the posture of the movable member; and

the movable member is a turn table rotationally driven by the support board.

23. (Previously Presented) The method of generating three-dimensional data according to claim 20, wherein

the position and posture changing portion includes:

a movable member whose position and posture are kept constant with respect to the object during the plural times of measurements, and

a base member for changing the position and the posture of the movable member, the second element is provided in the base member, wherein the method further comprises:

detecting an amount of change of the position and the posture of the movable member with respect to the base member.

24. (Previously Presented) The method of generating three-dimensional data according to claim 23, wherein

the base member is a support board and the movable member is a turn table rotationally driven by the support board; and

the detecting portion includes an encoder for encoding a rotational angle of the turn table to the support board.

25. (Previously Presented) The method of generating three-dimensional data according to claim 20, wherein measuring a relative posture includes measuring the position and the posture of the second element with respect to the first element.

26. (Previously Presented) The method of generating three-dimensional data according to claim 20, wherein measuring a relative posture includes measuring the position and the posture of the first element with respect to the second element.

27. (Previously Presented) The method of generating three-dimensional data according to claim 20, wherein

plural second elements are provided in the position and posture changing portion.

28. (Previously Presented) The method of generating three-dimensional data according to claim 20, wherein

electromagnetic induction is used in measuring the relative position and the relative posture between the first element and the second element.